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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,864	11/26/2003	Charles D. Combs	113692CON-2 (ATT.0020004)	6068
26291	7590	05/03/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			PHAN, HANH	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/721,864	Applicant(s) COMBS ET AL.	
	Examiner Hanh Phan	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 02/04/2005.
2. The indicated allowability of claims 38 and 42 is withdrawn in view of the newly discovered reference(s) to Frigo (US Patent No. 5,521,734), Pan (US Patent No. 6,147,786) and Lu et al (US Patent No. 5,880,865). Rejections based on the newly cited reference(s) follow.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 38 and 42 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 42, 49 and 50 of copending Application No. 10/630,664 (Combs et al) in view of Frigo (US Patent No. 5,521,734 cited by applicant).

Regarding claims 38 and 42, Combs (copending Application No. 10/630,664) discloses a communication system, comprising:

a mux node including a first lightwave interface device for communication with a headend, said mux node further including a second lightwave interface device for transmitting an optical signal including analog and digital signals; and

a mini fiber node including a third lightwave interface device for receiving said optical signal from said second lightwave interface device of said mux node, said mini fiber node being further configured to communicate analog and digital signals to end user equipment via a wired connection;

the mux node includes a mux/demux/router component that is operative receive electrical signals that have been converted from optical signals received from the head end, demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device that transmits the separate demultiplexed signals to designated mini fiber nodes (claim 50 of copending Application No. 10/630,664).

Combs differs from claims 38 and 42 in that he fails to teach the mux/demux/router component performs a local routing function wherein an upstream signal received from a first mini fiber node is routed to a second mini fiber node instead of the headend. However, Frigo in US Patent No. 5,521,734 teaches a mux node (i.e., RT 220, Fig. 3) includes a mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) that is operative receive electrical signals that have been converted from optical signals received from the head end (i.e., CO 210, Fig. 3), demultiplexes the

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received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device (i.e., transmitters T1-Tn-1, Fig. 3) that transmits the separate demultiplexed signals to designated mini fiber nodes (i.e., ONU#1-ONU#n-1, Fig. 3)(col. 4, lines 32-61) and the mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) performs a local routing function wherein an upstream signal received from a first mini fiber node is routed to a second mini fiber node instead of the headend. Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the mux node includes a mux/demux/router component as taught by Frigo in the system of Combs. One of ordinary skill in the art would have been motivated to do this since Frigo suggests in column 4, lines 32-61 that using such the mux node includes a mux/demux/router component has advantage of allowing increasing capabilities of communication between the users and users and reducing cost of the communication system.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frigo (US Patent No. 5,521,734 cited by applicant) in view of Pan (US Patent No. 6,147,786 cited by applicant).

Regarding claims 38 and 42, referring to Figure 3, Frigo discloses a communication system, comprising:

a mux node (i.e., RT 220, Fig. 3) including a first lightwave interface device (i.e., R0, T0, Fig. 3) for communication with a headend (i.e., CO 210, Fig. 3), the mux node further including a second lightwave interface device (i.e., R1-Rn-1, T1-Tn-1, Fig. 3) for transmitting an optical signal; and

a mini fiber node (i.e., ONU#1-ONU#n-1, Fig. 3) including a third lightwave interface device for receiving the optical signal from the second lightwave interface device of the mux node, the mini fiber node being further configured to communicate signals to end user equipment via a wired connection (col. 4, lines 30-61).

wherein the mux node (i.e., RT 202, Fig. 3) includes a mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) that is operative receive electrical signals that have been converted from optical signals received from the head end (i.e., CO 210, Fig. 3), demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device (i.e., transmitters T1-Tn-1, Fig. 3) that transmits the separate demultiplexed signals to designated mini fiber nodes (i.e., ONU#1-ONU#n-1, Fig. 3)(col. 4, lines 32-61); and

wherein the mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) performs a local routing function wherein an upstream signal

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received from a first mini fiber node is routed to a second mini fiber node instead of the headend (Fig. 3).

Frigo differs from claims 38 and 42 in that he fails to teach the optical signal including an analog and digital signals. However, Pan in US Patent No. 6,147,786 teaches the optical signal including an analog and digital signals (Fig. 1, col. 7, lines 51-67, col. 8, lines 1-67 and col. 9, lines 1-29). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical signal including an analog and digital signals as taught by Pan in the system of Frigo. One of ordinary skill in the art would have been motivated to do this since Pan suggests in column 7, lines 51-67, col. 8, lines 1-67 and col. 9, lines 1-29 that using such the optical signal transmitted including an analog and digital signals have advantage of allowing providing a hybrid analog/digital wavelength division multiplexing access network system with mini fiber nodes and reducing cost of the communication system.

7. Claims 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frigo (US Patent No. 5,521,734 cited by applicant) in view of Lu et al (US Patent No. 5,880,865 cited by applicant).

Regarding claims 38 and 42, referring to Figure 3, Frigo discloses a communication system, comprising:

a mux node (i.e., RT 220, Fig. 3) including a first lightwave interface device (i.e., R0, T0, Fig. 3) for communication with a headend (i.e., CO 210, Fig. 3), the mux node

further including a second lightwave interface device (i.e., R1-Rn-1, T1-Tn-1, Fig. 3) for transmitting an optical signal; and

a mini fiber node (i.e., ONU#1-ONU#n-1, Fig. 3) including a third lightwave interface device for receiving the optical signal from the second lightwave interface device of the mux node, the mini fiber node being further configured to communicate signals to end user equipment via a wired connection (col. 4, lines 30-61).

wherein the mux node (i.e., RT 202, Fig. 3) includes a mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) that is operative receive electrical signals that have been converted from optical signals received from the head end (i.e., CO 210, Fig. 3), demultiplexes the received electrical signals, and forwards separate demultiplexed signals to the second lightwave interface device (i.e., transmitters T1-Tn-1, Fig. 3) that transmits the separate demultiplexed signals to designated mini fiber nodes (i.e., ONU#1-ONU#n-1, Fig. 3)(col. 4, lines 32-61); and

wherein the mux/demux/router component (i.e., MUX 142, processor 144, DEMUX 128, Fig. 3) performs a local routing function wherein an upstream signal received from a first mini fiber node is routed to a second mini fiber node instead of the headend (Fig. 3).

Frigo differs from claims 38 and 42 in that he fails to teach the optical signal including an analog and digital signals. However, Lu in US Patent No. 5,880,865 teaches the optical signal including an analog and digital signals (Fig. 6, col. 1, lines 52-59, col. 4, lines 57-67 and col. 5, lines 1-16). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical

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signal including an analog and digital signals as taught by Lu in the system of Frigo.

One of ordinary skill in the art would have been motivated to do this since Lu suggests in column 1, lines 52-59, col. 4, lines 57-67 and col. 5, lines 1-16 that using such the optical signal transmitted including an analog and digital signals have advantage of allowing providing a hybrid analog/digital wavelength division multiplexing access network system with mini fiber nodes and reducing cost of the communication system.

Response to Arguments

8. Applicant's arguments with respect to claims 38 and 42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.



**HANH PHAN
PRIMARY EXAMINER**